

IN THE ABSTRACT:

Please replace the existing Abstract with the following Abstract.

A spot welding system using a spot welding gun having a servomotor for driving welding tips capable of suppressing variation of pressing force due to influence of heat generated by welding current to obtain an uniform pressing force. ~~A position control of the welding tips is performed based on motion commands r , position feedback amounts y to obtain a torque command (current command) τ to drive the servomotor.~~ A difference between the temperature T detected by a temperature sensor and an initial temperature T_0 is multiplied by a coefficient A to obtain a pressing force compensation amount α . ~~In a pressing force control, the pressing force compensation amount α is subtracted from the commanded pressing force to obtain temperature compensated command pressing force P' .~~ A pressing force d estimated by an observer is subtracted from the compensated command pressing force p' and an obtained difference is multiplied by a constant K_2 to obtain a torque command (current command) τ for driving the servomotor to press the objects by the welding tips. Since the commanded pressing force is compensated in accordance with the temperature, a constant and stable pressing force is produced without influence of the temperature variation.